

REMARKS

Claims 1-18 are pending in this application. By this amendment, Applicants amend claims 1 and 10.

The Title of the Invention was objected to because it was not sufficiently descriptive of the claimed invention. Applicants have amended the Title of the Invention to be sufficiently descriptive of the present claimed invention. Accordingly, Applicants respectfully request reconsideration and withdrawal of the objection to the Title of the Invention.

The Drawings were objected to for allegedly failing to show every feature of the invention specified in the claims. The Examiner maintains that the ladder type filter, resonator filter and transversely coupled resonator filter must be shown.

Under 35 U.S.C. § 113, drawings are required where such drawings are necessary for the understanding of the invention. All of the novel features of the claimed invention are illustrated in the originally filed drawings. One of ordinary skill in the art would not require an illustration of the structure of a ladder type filter, resonator filter and transversely coupled resonator filter to understand the claimed invention in the present application. Further, one of ordinary skill in the art would clearly be enabled by the originally filed specification and drawings to incorporate the novel features of the claimed invention into a ladder type filter, a resonator filter and a transversely coupled resonator filter without the necessity of a drawing to illustrate the specific arrangement thereof.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the objection to the drawings.

Claims 1-18 were rejected under 35 U.S.C. § 112, second paragraph, for allegedly being indefinite. Applicants have amended Claims 1 and 10 to specifically recite a lower limit for the distance "L" as described on page 10 of the originally filed specification, and further to delete the term "substantially".

Regarding the use of the term "about", it has long been held that the use of the term "about" does not render claims indefinite. Ex parte Shelton, 91 USPQ 374. The

term "about" is merely an indication that exactitude is not being claimed, but rather a contemplated slight variation from the recited range. Kolene Corp. v. Motor City Metal Treating, Inc., 163 USPQ 214.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of Claims 1-18 under 35 U.S.C. § 112, second paragraph.

Claims 1, 2, 4-7, 10, 11 and 13-16 were rejected under 35 U.S.C. § 102(b) as being anticipated by Ago et al. (U.S. 5,684,437). And claims 3, 8, 9, 12, 17 and 18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ago et al. in view of Kadota et al. (U.S. 5,952,899). Applicants respectfully traverse these rejections.

Claim 1 has been amended to recite:

"A surface acoustic wave device comprising:
a piezoelectric substrate having a pair of substrate edges and an upper surface therebetween and including a main region and a bottom surface, the piezoelectric substrate having at least one inner edge arranged to contact the main region and to extend from the upper surface toward the bottom surface of the piezoelectric substrate inside one of the substrate edges;

an interdigital transducer provided on the main region of the piezoelectric substrate such that a shear horizontal type surface acoustic wave excited by the interdigital transducer and having a wavelength of λ are reflected by the at least one inner edge;

wherein a distance L between the at least one inner edge and the corresponding one of the substrate edges is in the range of about $\lambda/10$ to about 8λ ." (Emphasis added)

Claim 10 has been amended to recite features that are similar to the features recited in claim 1, including the emphasized features.

The Examiner alleges that Ago teaches "a surface acoustic wave device comprising a piezoelectric substrate 5 having a pair of edges, an interdigital transducer 4 provided on a main region wherein a distance L between at least one inner edge and corresponding one of the substrate edges is equal to about 8λ or less (column 5, lines 47-49). Also inner edge has a height H in the range of about 2λ to about 6λ ."

Applicants respectfully disagree with the Examiner's interpretation of Ago.

Column 5, lines 47-49 of Ago disclose "it is desirable that the depth of the

grooves 25 and 26, that is the height of the end faces 22b and 22c, is in the range of 1λ to 7λ " (Emphasis added).

The Examiner has relied upon this disclosure in Ago to support the conclusion that Ago teaches "a distance L between at least one inner edge and the corresponding one of the substrate edges is in the range of about 8λ or less". The Examiner has apparently also relied upon this disclosure in Ago to support his conclusion that Ago also teaches a height H in the range of about 2λ to about 6λ .

Initially, the Examiner has clearly improperly relied upon a single element disclosed in Ago to teach two separate and distinct elements recited in Applicants' Claims 1, 2, 10 and 11. Particularly, the Examiner has relied upon the height of the grooves 25 and 26 in Ago to teach BOTH the "distance L" and the "height H" recited in Applicants' Claims 1 and 10, and 2 and 11, respectively.

Further, Ago fails to teach or suggest any range of values of a distance between an inner edge of a piezoelectric substrate and a corresponding substrate edge of the piezoelectric substrate, let alone the specific range of "about $\lambda/10$ to about 8λ " as recited in Applicants' Claims 1 and 10 of the present invention. The only specific range of values disclosed in Ago is the depth of the groove 25 and 26, or alternatively the height of the end faces 22b and 22c, which is clearly a different dimension than the "distance L between at least one inner edge and corresponding one of the substrate edges" recited in Applicants' Claims 1 and 10.

Ago is completely silent about the necessity or desirability of any specific relationship between or range of values for a distance between an inner edge of a piezoelectric substrate and a corresponding substrate edge of the piezoelectric substrate.

Accordingly, Applicants respectfully submit that Ago et al. fails to teach or suggest the unique combination and arrangement of elements recited in Applicants' Claims 1 and 10 of the present applications.

In view of the foregoing Amendments and Remarks, Applicant respectfully submits that Claims 1 and 10 are allowable over the prior art for the reasons described

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above. Claims 2-9 and 11-18 are dependent upon claims 1 and 10, respectively, and are therefore allowable for at least the reasons that claims 1 and 10 are allowable.

In view of the foregoing Remarks, Applicants respectfully submit that this application is in condition for allowance. Favorable consideration and prompt allowance are respectfully solicited.

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

Title of the Invention:

**SURFACE ACOUSTIC WAVE DEVICE HAVING AN INTERDIGITAL
TRANSDUCER PROVIDED ON A MAIN REGION OF A PIEZOELECTRIC
SUBSTRATE**

In the Claims:

1. A surface acoustic wave device comprising:

a piezoelectric substrate having a pair of substrate edges and an upper surface therebetween and including a main region and a bottom surface, the piezoelectric substrate having at least one inner edge arranged to contact the main region and to extend from the upper surface toward the bottom surface of the piezoelectric substrate inside one of the substrate edges;

an interdigital transducer provided on the main region of the piezoelectric substrate such that a shear horizontal type surface acoustic wave excited by the interdigital transducer and having a wavelength of λ are reflected by the at least one inner edge;

wherein a distance L between the at least one inner edge and the corresponding one of the substrate edges is [substantially equal to] in the range of about $\lambda/10$ to about 8λ [or less].

10. A communication device comprising:

at least one surface acoustic wave device including:

a piezoelectric substrate having a pair of substrate edges and an upper surface therebetween and including a main region and a bottom surface, the piezoelectric substrate having at least one inner edge arranged to contact the main region and to extend from the upper surface toward the bottom surface of the piezoelectric substrate inside one of the substrate edges;

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an interdigital transducer provided on the main region of the piezoelectric substrate such that a shear horizontal type surface acoustic wave excited by the interdigital transducer and having a wavelength of λ are reflected by the at least one inner edge;

wherein a distance L between the at least one inner edge and the corresponding one of the substrate edges is [substantially equal to] in the range of about $\lambda/10$ to about 8λ [or less].